Ripped from the ROUNDUP

Ripped straight from the pages of old Space News Roundups, here's what happened at JSC this week in:

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JSC Director Robert R. Gilruth has been chosen to receive the National Aviation Club's highest recognition, the Award for Achievement. Earlier recipients of the award include former NASA Administrator James E. Webb and Vice Admiral William F. Raborn.

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Center Director Dr. Christopher C. Kraft Jr. has received the Insignia of the Knight of the Legion of Honor–the highest honor given by the French government to a citizen of another country. Kraft received the medal during ceremonies held at noon, Oct 13, at the Washington, D.C. residency of His Excellency Jacques Kosciusko-Morizet, the French Ambassador to the United States.

• The Astronaut Candidate Program Office reported on Oct. 14 that 313 applications have been received for civilian astronaut pilot and mission specialist candidate positions. Of a total 7,340 applications and announcements mailed out by request, 173 went to JSC employees.

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An updated launch/entry suit now under development may not look different from its original counterpart but test subjects claim it feels different.

An Advanced Crew Escape Suit, under development by NASA and the U.S. Air Force, already has received rave reviews from some of the men and women who would wear them during their climb into and descent from space.

"There's strong support the new suit and to get it as soon as possible," said Astronaut Pierre Thuot. "It's definitely an improvement over the older suit in terms of comfort, heat load and mobility."


ROUNDUP
Frosch, Yardley cover new space technology in STS development

John Yaniec
'Space Nut'

By Aaron Wyatt

Many kids want to be an astronaut. John Yaniec was no different.

"I was in Ms. Vrooman's fourth grade class listening to the radio as John Glenn orbited the Earth on Friendship 7 in 1963," Yaniec recalled. "My mother called me a space nut."

Yaniec is now living his dream job. While he may not be rolling around in the vacuum of space, he certainly is experiencing the weightlessness as Lead Test Director of Johnson Space Center's KC-135A Reduced Gravity Research Program based at Ellington Field.

Yaniec has accumulated more than 20,269 parabolas in JSC's KC-135 since he started working on it in 1998. That's 170 hours of zero-g's, the equivalent of about one week. Those totals place him fourth on the list of the most parabolas in the history of JSC.

Despite that extraordinary amount of parabolas, Yaniec said his work isn't boring.

"Each week is like a science fair. What we do is important," he said. "We're a valuable asset to the program and the micro-gravity community."

For 35 weeks each year the KC-135 is in the air, providing scientists and students a working environment, free of gravity. The plane can also simulate lunar, Martian and hyper-gravity levels.

"We are the only research platform where the researcher can fly with their research," Yaniec said.

Work on the KC-135 program leads to solutions for problems on orbit. It also allows engineers to make adjustments on hardware and experience what Shuttle crews are referring to when problems occur.

Though researchers often become ill while in flight, Yaniec said he's never gotten sick himself. However, one of the problems Yaniec does encounter with the KC-135 program is weather.

"The weather is always a challenge," he said, adding that it can disrupt flight schedules, as well as prevent planning for the following week.

Beside the dangers involved with flying, Yaniec said extra caution must be used when working on the KC-135.

"Some materials can become combustible when working in zero-g," he said. "It's important to make sure the systems and equipment are safe."

Not only is Yaniec responsible for helping get flights off the ground and helping to ensure safety while in flight, his other duties include project management, budget, manifests of project experiments and schedules. He also monitors test readiness reviews, prepares researchers to fly and coordinates with pilots, security and badging.

"We're like flight attendants on an airline," he remarks. "We (flight directors, photographers and videographers) do whatever we can as a crew. Everyone is a team and brings their expertise to the operations."

A graduate of Lawrence Institute of Technology (now Lawrence Technical University) in Southfield, Mich., Yaniec spent four years in the Air Force working maintenance. After his military tour, he then spent the next 17 years as a civil employee for the Air Force at Selfridge Air National Guard Base, in the 2013st Communications Squadron.

His work in maintenance took him from Michigan to Colorado to Ohio, where he worked in logistics support analysis. In October 1989, he learned of a logistics analysist opening at Glenn Research Center in Cleveland. While he was interviewed for the position, budget cuts prevented a job offer. Yaniec wasn't hired at Glenn until more than a year later.

He spent the next few years working at Glenn in logistics. He later moved on to aircraft operations, working with the DC-9 aircraft and the Reduced Gravity Program. He eventually became the program's test director.

While working at Glenn, Yaniec made several trips to JSC in connection with the Reduced Gravity Program. When JSC Test Director Bob Williams retired, Arthur Beall, Flight Operations Branch Chief, made a call to Yaniec and offered him the position. In September 1998, he reported for work at JSC.

Yaniec said he likes the operational environment of his job, and the variety of experiments he sees from week to week keeps it enjoyable. For instance, a recent experiment on board tested a sampling system hoping to be a part of a comet-landing mission.

"Part of the work is looking into the future with Mars missions, going back to the moon and working with partial gravity combustion," he said.

An integral part of the KC-135 has been the student program, which has grown dramatically since he first started with the Reduced Gravity Program. Yaniec has witnessed their experiments develop in complexity over the years.

"We are seeing a lot more science, great ideas and great things to investigate," he said.

Ortiz Receives IEEE Award for ISS research paper

The Institute of Electrical and Electronics Engineers Aerospace and Electronics Systems Society (AESS) have selected Dr. James Ortiz, the Chief Engineer for Project Analysis in JSC's Systems Management Office, for the M. Barry Carlton Award. This award is given annually for the best paper published in the AESS Transactions journal during a calendar year.

"My work planning and developing training for the ISS crews during the early phases of the International Space Station program, while I was in the training division of the Mission Operations Directorate, provided the inspiration for this research," Ortiz said.

"Having a real-world problem to solve helped a great deal in focusing the effort. This research produced a tool that demonstrated a practical application of advanced automation into routine mission operations.

"I want to thank the Center for granting me the JSC fellowship that made this work possible and the people from MOD training division for their support in scoping and testing the tool."


Dr. James Ortiz

The award will be presented during the Institute of Electrical and Electronics Engineers AESS-sponsored conference on "Core Technologies for Space Systems" in Colorado Springs, Colo., Nov. 28-30.

Ortiz will share the award with his co-author, University of Houston electrical and computer engineering professor Guanrong "Ron" Chen, for their article, "Intelligent Control for a Planning System for Astronaut Training." They will each receive a plaque and share a $1,000 cash award in recognition of their work. Ortiz is a University of Houston alumnus, having received his Ph.D. in electrical engineering from UH in 1996.

Ortiz and Chen began researching the topic as part of Ortiz's doctoral studies. The research combined control systems theory and artificial intelligence to mechanize the preparation of training plans for the astronauts that participate in the International Space Station.

"The mathematical models that we developed to emulate the planning process were surprisingly efficient and produced very small computer programs," Ortiz explained.

"These computer programs not only produced complete training plans that met all required prerequisites, but also optimized these plans to minimize the expenditure of the resources, such as overall training time and amount of travel."

Friends of M. Barry Carlton established the M. Barry Carlton Memorial Award in 1957. Carlton dedicated his life to the reliability of communications equipment, particularly equipment carried in aircraft. He died in a commercial aircraft accident on June 30, 1956.

‘Space Nut’

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